

**Patent claims**

1. A heat exchanger, especially a charge-air cooler  
5 for motor vehicles, with flat tubes (9) having tube  
ends (9a), and with header boxes (1) which are  
connected, especially soldered, to tube bottoms (4),  
the tube bottoms (4) having orifices (8) with  
longitudinal sides (8a) and narrow sides (8b) for  
10 receiving the tube ends (9a), furthermore edge strips  
(5, 6) and transitional regions (12, 13) of channel-  
like design between the narrow sides (8b) and the edge  
strips (5, 6), and the tube ends (9a) being soldered in  
the orifices (8), **characterized** in that the  
15 transitional regions (12, 13) have a reinforcement.

2. The heat exchanger as claimed in claim 1,  
**characterized** in that the reinforcement is designed as  
a material thickening.

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3. The heat exchanger as claimed in claim 1,  
**characterized** in that the reinforcement is designed as  
a stiffening, especially as a bead.

25 4. The heat exchanger as claimed in claim 1,  
**characterized** in that the reinforcement is designed as  
a profile strip which at least partially fills the  
transitional region (12, 13) and which is soldered to  
the tube bottom (4).

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5. The heat exchanger as claimed in claim 4,  
**characterized** in that the profile strips (18, 19) are  
produced in one piece with the header box (17).

35 6. The heat exchanger as claimed in claim 4,  
**characterized** in that the profile strips are designed  
as insert strips (11, 12).

7. The heat exchanger as claimed in claim 4, 5 or 6, **characterized** in that the orifices are designed as inwardly directed rim holes (8), and in that the profile strips (10, 11) have recesses (10a, 11a) which  
5 are adapted to the form of the narrow sides (8b) of the rim holes (8).

8. The heat exchanger as claimed in one of the preceding claims, **characterized** in that the orifices  
10 are designed as outwardly directed rim holes.